

66. *Spongophyllum* from the Middle Gotlandian Limestone of Erhtaokou near Kiturin, Mansyû.

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This paper is based on a specimen of the Rugosa collected by K. T. Li of the Kiturin College of Education from a limestone exposed at Erhtaokou, 12 km west of Kiturin (Kirin) city Mansyu, which is known to enclose *Pseudomphyma*. The specimen is a small fragmental stock, 80—90 mm in diameter, of a cerioid coral; it belongs to the genus *Spongophyllum* M. Edw. et H., in the sense lately revised by Hill. Her diagnosis of the genus runs as follows:

“Cerioid rugose corals in which the tabularium is narrow and the tabulae close and slightly concave, the minor septa are degenerate, and lonsdaleoid dissepiments may be developed in an irregular peripheral zone where the major septa are discontinuous.”²⁾

The genus *Spongophyllum* was instituted in 1851 by M. Edwards et J. Haime on *Spongophyllum sedgwicki* M. Edwards et J. Haime from the Devonian of Torquay, South Devon, England, which was then monotypic; the original description is fairly good, but not sufficiently accurate for preventing confusion by later authors of the genus with allied types such as *Endophyllum* and some other resemblants. Among the authors, Dybowski (1886), Roemer (1883), Schluter (1881, 1886, 1889), Frech (1888), Weisssermerl (1894), Pocta (1902), Etheridge (1889, 1911, 1913, 1918), Chapman (1925), Yoh (1937), and Stumm (1937)³⁾, who once or several times dealt with the genus, opinions were sometimes quite divergent as to its generic confine; more recently, however, this was definitely settled by Jones (1929, 1933) and Hill (1937) who re-examined the genotype from Torquay, more especially the latter whose revision of the generic diagnosis has been quoted above. In the genus in the revised sense she counted the following 12 species, 5 belonging to the Gotlandian and 7 to the Devonian.

Gotlandian species.

Spongophyllum fritschii Novak
inficetum Pocta

Bohemia, Upper Gotlandian
Bohemia, Upper Gotlandian

1) H. Yabe and M. Eguchi, Proc. Imp. Acad. vol. XX, no. 6, p. 382, 1944,

2) D. Hill, Proc. Roy. Soc. Queensland, vol. LI, no. 9, p. 161, 1940.

3) E. C. Stumm, Journ. Paleont., vol. XI, no 5, p. 435, 1937.

<i>Spongophyllum rectiseptatum</i> Dybowski	Gotland, Upper Gotlandian
<i>spongophylloides</i> Foerste	Australia, Upper Gotlandian
<i>shearsbyi</i> Chapman	Australia, Upper Gotlandian

Devonian species:

<i>Spongophyllum schlegelii</i> M. Edwards et J. Haime	England, Middle Devonian
<i>kuntzi</i> Schlüter	Germany, Middle Devonian
<i>parvistella</i> Schlüter	Germany, Middle Devonian
<i>caranus</i> Schlüter	Germany, Middle Devonian
<i>lygeriense</i> Le Maître	France, Middle Devonian
<i>giganteum</i> Etheridge	Australia, Middle Devonian
<i>cyathophylloides</i> Etheridge	Australia, Middle Devonian

There are two species now to be added to this list, *Spongophyllum sugiyamai*, sp. nov. from Ertakou, described below, and *Spongophyllum yoshii* Sugiyama from the Kitakami Mountainland, Japan,⁴⁾ and these two species are geologically the oldest forms, being derived from the rocks proven to be of the Middle Gotlandian age on the evidence of other fossils found in their association.

The writers have at their disposal a topotype each of *Spongophyllum inficatum* Poeta and *S. kuntzi* Schlüter, as well as the holotype of *S. yoshii* Sugiyama, for comparison with the present material; besides, there are specimens of *S. elongatum* Schlüter from the Middle Devonian of Pelm in Eifel, Germany, and of *S. semiseptatum* Schlüter from that of Gerolstein, also in Eifel, both hitherto included in the genus; but to be excluded from it in the strict sense as will be shown separately on another occasion.

Diagnosis: *Spongophyllum* with the dissepimentarium consisting of large irregular lonsdaleoid vesicular dissepiments and the narrower tabularium having rather distant tabulae; minor and major septa are usually imperfect and not in distinct alternation, in consequence also much varying in total number.

Description: Corallum cerioid, 80 × 90 mm large, probably hemispherical in growth-habit. Corallites usually contiguous, rarely separated one from the other by a narrow interspace; prismatic, usually hexagonal, sometimes pentagonal in cross-section, large ones 6.5 mm broad. Septa probably 14-16 in normal number, most of them more or less reduced in size or sometimes even almost missing: major and minor ones in alternation, though scarcely recogni-

4) O. A. Jones, Proc. Roy. Soc. Queensland, vol. XLIV, p. 50, 1933.

5) D. Hill, Proc. Roy. Soc. Queensland, vol. L, no. 10, p. 58, 1939.

6) T. Sugiyama, Sci. Rep. Tôhoku Imp. Univ., Sendai, ser. II (Geol.), vol. XXI, no. 2, p. 117, 1940.

Fig. 4



Fig. 2

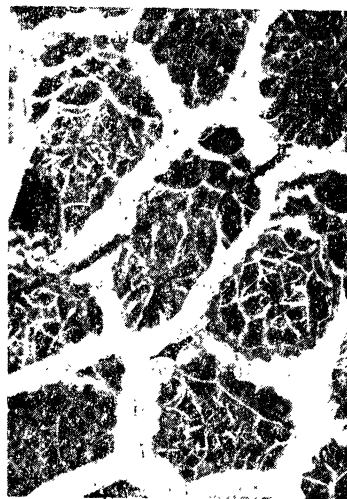
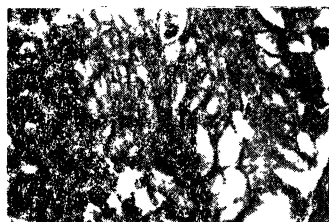


Fig. 3



Fig. 1

- Fig. 1. Tangential section, $\times 3.3$
- 2. Longitudinal section, $\times 3.3$
- 3. Tangential section, $\times 4$
- 4. Longitudinal section, $\times 4$

zable as such. Minor septa short, almost confined within the tabularium; major septa variably long, some of them occasionally extending from near the centre of calices to wall through the vesicular tissue of dissepimentarium, in which they are often discontinuous, only represented by denticles on the surface of vesicles. Theca usually thick, dilated at the base of septa and appearing monilated in cross-section, rarely thin; septal bases of adjacent corallites alternate or opposite. No columella. Dissepimentarium occupied by large vesicles in 1 or 2 rows; tabularium narrower, traversed by many, rather distant, nearly horizontal tabulae.

Remarks: In the size of corallites and the small number of septa, this species stands close to *S. sedgwicki* from the Middle Devonian of Torquay, England; but it is characterized by having thick wall, monilated in cross section, and better developed lonsdaleoid dissepiments. In these features, the former species resembles *S. yoshii* from the Middle Gotlandian of the Kitakami Mountainland, though easily distinguished from it by larger corallites having less numerous and much more reduced septa. Both *S. fritschi* from the Upper Gotlandian of Bohemia and *S. kunthi* from the Middle Devonian of Germany are also very similar to the Mansyu species, but in *S. fritschi*, corallites are much larger, and in *kunthi*, the septa are much better developed. Because of its much reduced septa, the present form can be regarded as the most primitive type yet known of *Spongopnyltum* with lamellar septa.

Locality: Ertaokou, 12 km west of Kiturin, Mansyu, found in a limestone mass which once yielded *Favosites* sp. and *Pseudomphyma*. The senior author found there in his recent visit numerous *Pachypora*? in the uppermost part of the limestone. *Striatopora cristata* (Blumenbach)? and *Uladopora*? sp. which the present writers once reported from the same limestone require revision.

Geological age: Middle Gotlandian.